What is claimed is:

1. An image forming device comprising:

image data generation means for generating image data from original data;

compression means for compressing the image data generated by the image data generation means;

memory means for storing the image data compressed by the compression means;

a printing engine providing a plurality of different printing speed for printing an image on an image recording medium;

a determining means for determining the printing speed based on an amount of the compressed image data stored in the memory means;

decompressing means for decompressing the compressed image data stored in the memory means; and

transfer means for transferring the image data decompressed by the decompressing means to the printing engine.

2. The image forming device as claimed in claim 1, wherein the original data comprise data expressed in a page describing language, and the image data comprise raster data.

3. The image forming device as claimed in claim 2, wherein the printing speed determining means determines the printing speed of the printing engine based on the data volume of each raster of the image data to be printed.

4. The image forming device as claimed in claim 3, wherein the printing engine provides at least a first printing speed and a second printing speed lower than the first printing speed, and wherein the printing speed determining means comprises:

selection means for selecting one specific raster having the largest data volume among all rasters constituting the image data to be recorded;

judging and determining means for judging whether or not the data volume of the selected specific raster exceeds a predetermined data volume after compression, and for determining the second printing speed if the data volume of the raster exceeds the predetermined data volume, and for determining the first printing speed if the data volume of the raster does not exceed the predetermined data volume.

5. The image forming device as claimed in claim 4, wherein the judging and determining means selects out the raster having the largest data volume based on the image data compressed by the compression means.

6. The image forming device as claimed in claim 4, wherein the first printing speed is one of a requested printing speed and a maximum printing speed of the printing engine, and wherein the predetermined data volume is determined based on a data volume transferable from the memory means to the decompressing means within a printing time period for one raster

the printing period being determined with a function of the first printing speed and a resolution of the printing engine.

7. The image forming device as claimed in claim 1, wherein the printing speed determining means determines the printing speed of the printing engine on a page by page basis.

8. The image forming device as claimed in claim 1, wherein image data generated by the image data generation means comprise color data for performing color image printing based on the color data.

9. The image forming device as claimed in claim 1, wherein the printing engine comprises a conveyance section for conveying the image recording medium along a conveying route, a photosensitive body, an exposure section for forming an electrostatic latent image on the photosensitive body, a developing unit for developing the electrostatic latent image on the photosensitive body, and a drive means for driving the conveyance section, the photosensitive body, the exposure section, and a developing unit,

and wherein the transfer means transfers image data decompressed by the decompressing means to the exposure section.

10. The image forming device as claimed in claim 9, wherein a plurality of combinations each including the photosensitive body, the exposure section, and the developing unit are arranged along the conveyance route for every color different from each other.

11. The image forming device as claimed in claim 3, wherein the printing engine comprises a laser engine including a laser scanner unit performing the scanning operation, the data of the raster being transferred from the transfer means to the laser engine on a raster-by-raster basis in synchronism with the scanning operation.

12. The image forming device as claimed in claim 1, wherein the compression means compresses image data through one of run length coding, prediction coding, JBIG, bit plane conversion, prediction coding, block sorting, JPEG using a non-reversible compression DCT method, and wavelet conversion.

13. The image forming device as claimed in claim 3, wherein the printing engine provides at least a first printing speed and a second printing speed lower than the first printing speed, and wherein the printing speed determining means comprises:

judging means for judging whether or not data volume of each raster constituting the image data to be printed exceeds a predetermined data volume after compression of each raster data; and

determining means for determining the second printing speed for the image data if there is a raster whose data volume exceeds the predetermined data volume, and for determining the first printing speed for the image data if every data volume of every raster does not exceed the predetermined data

volume.

14. An image forming device comprising:

image data generation means for generating image data from original data;

compression means for compressing the image data generated by the image data generation means;

a printing engine providing a plurality of different printing speed for printing an image on an image recording medium;

printing speed determining means for predicting compressed data volume based on the image data generated by the image data generation means and selecting one of the printing speed among the plurality of different printing speed based on the predicted compressed data volume;

memory means for storing the image data compressed by the compression means;

decompressing means for decompressing the compressed image data stored in the memory means; and

transfer means for transferring the image data decompressed by the decompressing means to the printing engine.

15. The image forming device as claimed in claim 14, wherein the original data comprise data expressed in a page describing language, and the image data comprise raster data.

16. The image forming device as claimed in claim 15, wherein the printing speed determining means determines the

printing speed of the printing engine based on the data volume of each raster of the image data to be printed.

17. The image forming device as claimed in claim 16, wherein the printing speed determining means predicts the compressed data volume from an entropy of the image data to be printed, and determines the printing speed based on the predicted compressed data volume.

18. The image forming device as claimed in claim 17, wherein the recording engine provides at least a first printing speed and a second printing speed lower than the first printing speed, and

the printing speed determining means comprises:

a selection means for selecting one specific raster having the largest data volume among all rasters constituting the image data to be printed, the one specific raster providing the largest data volume after compression upon prediction from an entropy of the image data; and

judging means for judging whether or not the data volume of the selected raster exceeds a predetermined data volume and for determining the second printing speed for the image data if the data volume of the specific raster exceeds the predetermined data volume, and for determining the first printing speed for the image data if the data volume of the selected raster does not exceed the predetermined data volume.

19. The image forming device as claimed in claim 18,

wherein the printing speed determining means selects out the raster having the largest data volume based on non-compressed image data.

20. The image forming device as claimed in claim 17, wherein the printing speed determining means determines the printing speed based on a first data volume of each raster of the image data to be printed and based on a second data volume of each raster, the second data volume being compressed by way of prediction from the entropy.

21. The image forming device as claimed in claim 20, wherein the printing engine provides at least a first printing speed, and a second printing speed lower than the first printing speed; and

the printing speed determining means comprises:

a first selection means for selecting out one specific non-compressed raster having the largest data volume among all non-compressed rasters constituting the image data to be recorded,

a first judging means for judging whether or not a first data volume of the selected non-compressed specific raster exceeds a first predetermined data volume and for determining the first printing speed for the image data if first data volume of the selected non-compressed specific raster does not exceed the first predetermined data volume;

a converting means for converting the selected non-

compressed specific raster into a compressed specific raster compressed with a compression ratio predicted from an entropy of the image data, the compressed specific raster having a second data volume;

a second judging means for judging whether or not the second data volume exceeds a second predetermined data volume, and for determining the first printing speed for the image data if second data volume does not exceed the second predetermined data volume, and for determining the second printing speed for the image data if the second data volume exceeds the second predetermined data volume.

22. The image forming device as claimed in claim 20, wherein the printing engine provides at least a first printing speed, and a second printing speed lower than the first printing speed; and

the printing speed determining means comprises:

a first selection means for selecting out one specific non-compressed raster having the largest data volume among all non-compressed rasters constituting the image data to be recorded,

a first judging means for judging whether or not a first data volume of the selected non-compressed specific raster exceeds a first predetermined data volume and for determining the first printing speed for the image data if first data volume of the selected non-compressed specific raster does not

exceed the first predetermined data volume;

a second selection means for selecting out a raster having the largest data volume among all rasters as a result of compression of these rasters with a compression ratio predicted from an entropy of the image data, the compressed raster having the largest data volume providing a second data volume;

a second judging means for judging whether or not the second data volume exceeds a second predetermined data volume, and for determining the first printing speed for the image data if the second data volume does not exceed the second predetermined data volume, and for determining the second printing speed for the image data if the second data volume exceeds the second predetermined data volume.

23. The image forming device as claimed in claim 17, wherein the printing engine provides least at a first printing speed and a second printing speed lower than the first printing speed; and

wherein printing speed determining means comprises:

judging means for judging on raster-by-raster basis whether or not each data volume of each raster after compression as a result of prediction from an entropy of the image data to be recorded exceeds a predetermined data volume; and

determining means for determining the second speed for the image data if there is a raster whose data volume exceeds

the predetermined data volume, and for determining the first printing speed for the image data if there is not any raster whose data volume exceeds the predetermined data volume.

24. The image forming device as claimed in claim 20, wherein the printing engine provides at least a first printing speed and a second printing speed lower than the first printing speed, and

wherein the printing speed determining means comprises:

first judging means for judging on raster-by-raster basis whether or not each data volume of each non-compressed raster constituting the image data to be recorded exceeds a first predetermined data volume and for determining the first speed for the image data if there is not any raster whose data volume exceeds the first predetermined data volume;

second judging means for judging on raster-by-raster basis whether or not each data volume of each raster after compression as a result of prediction from an entropy of the image data exceeds a second predetermined data volume; and

determining means for determining the second speed for the image data if there is a raster whose data volume exceeds the second predetermined data volume, and for determining the first speed for the image data if there is not any raster whose data volume exceeds the second predetermined data volume.

25. The image forming device as claimed in claim 16, wherein the printing engine provides at least a first printing

speed and a second printing speed lower than the first printing speed, and

wherein the first printing speed is one of a requested printing speed and a maximum printing speed of the printing engine, and wherein the predetermined data volume is determined based on a data volume transferable from the memory means to the decompressing means within a printing time period for one raster the printing period being determined with a function of the first printing speed and a resolution of the printing engine.

26. The image forming device as claimed in claim 14, wherein the printing speed determining means determines the printing speed of the printing engine on a page by page basis.

27. The image forming device as claimed in claim 14, wherein image data generated by the image data generation means comprise color data for performing color image printing based on the color data.

28. The image forming device as claimed in claim 14, wherein the printing engine comprises a conveyance section for conveying the image recording medium along a conveying route, a photosensitive body, an exposure section for forming an electrostatic latent image on the photosensitive body, a developing unit for developing the electrostatic latent image on the photosensitive body, and a drive means for driving the conveyance section, the photosensitive body, the exposure sec-

tion, and a developing unit,

and wherein the transfer means transfers image data decompressed by the decompressing means to the exposure section.

29. The image forming device as claimed in claim 28, wherein a plurality of combinations each including the photosensitive body, the exposure section, and the developing unit are arranged along the conveyance route for every color different from each other.

30. The image forming device as claimed in claim 16, wherein the printing engine comprises a laser engine including a laser scanner unit performing the scanning operation, the data of the raster being transferred from the transfer means to the laser engine on a raster-by-raster basis in synchronism with the scanning operation.

31. The image forming device as claimed in claim 14, wherein the compression means compresses image data through one of run length coding, prediction coding, JBIG, bit plane conversion, prediction coding, block sorting, JPEG using a non-reversible compression DCT method, and wavelet conversion.

32. An image forming method comprising the steps of:

generating image data from original data;

compressing the image data generated in the image data generation step;

storing the image data compressed in the compression step in a memory section;

determining printing speed of a printing engine based on the image data compressed in the compression step and stored in the memory section;

decompressing the compressed image data stored in the memory section; and

transferring the image data decompressed in the decompressing step to the printing engine.

33. An image forming method comprising the steps of:

generating image data from original data;

predicting data volume of the image data as if the image data being compressed based on the image data generated in the generation step;

determining printing speed of a printing engine based on the predicted data volume among a plurality of printing speed;

compressing the image data generated in the image data generation step;

storing the image data compressed in the compression step into a memory section;

decompressing the compressed image data stored in the memory section; and

transferring the image data decompressed in the decompressing step to the printing engine.